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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,096	06/22/2006	Rodolfo Verzegnassi	FR03 0158 US1	1407

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EXAMINER	
HSIEH, PING Y	

ART UNIT	PAPER NUMBER
2618	

NOTIFICATION DATE	DELIVERY MODE
08/21/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary	Application No.	Applicant(s)	
	10/584,096	VERZEGNASSI ET AL.	
	Examiner	Art Unit	
	PING Y. HSIEH	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 June 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☒ Claim(s) *14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 June 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-14 are pending.

Drawings

1. The drawings are objected to because the unlabeled rectangular box(es) shown in the drawings should be provided with descriptive text labels. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Fitton (U.S. PG-PUB NO. 2004/0028121).

-Regarding claims 1 and 4, Fitton discloses a data receiver for receiving user data and reference data coming from a transmitter via at least a channel **(as disclosed in fig. 5 and further disclosed in paragraph 81)**, the data receiver comprising means for unscrambling data, means for despreading unscrambled data **(despreaders 424, 426, 428 are provide to despread the appropriate signal from the output of the code generators 418, 420, 422 including scrambling codes as disclosed in fig. 4 and further disclosed in paragraph 11 and 78)**, means for analyzing a characteristic of the channel, for each path in a rake finger of the data receiver **(channel estimator 508 provides a plurality, N of channel estimate outputs, one for each multipath component to be processed as disclosed in fig. 5 and paragraph 83)**, means for respectively evaluating the contribution of interferences of data caused by the channel **(interference estimator 504 as disclosed in fig. 5 and further disclosed in**

paragraph 83-87), and subtracter means for cancelling the contribution of interference in the user data for the rake finger, using the respectively evaluated interferences in each path of the rake finger **(interference cancellation units 512 as disclosed in fig. 5 and further disclosed in paragraph 86)**, said subtracter means being placed before said unscrambling means **(despreaders 424, 426, 428 and code generators 418, 420, 422 are placed in the rake fingers as disclosed in fig. 4 and the interference cancellation units are placed before the rake fingers as disclosed in fig. 5)**.

-Regarding claim 2, Fitton further discloses the data are in compliance with the UMTS standard **(as disclosed in paragraph 3)**.

-Regarding claim 3, Fitton further discloses the reference data are provided by the CPICH channel **(as disclosed in fig. 5)**.

-Regarding claim 5, Fitton further discloses including adding a determined evaluation of each path in the rake finger together to determine interference in the rake finger **(the respective outputs from the cross-correlators 622 and 624 are then multiplied by channel estimates 606c and 606b in multipliers 626 and 628 respectively and the results combined to form the final term of Equation 5 on line 630 as disclosed in fig. 6 and paragraph 101)**, wherein subtracting the evaluation of interference includes subtracting the determined interference in the rake finger from user data processed via the rake finger and providing an output representing interference-corrected user data for unscrambling **(interference cancellation unit 910 as disclosed in fig. 9 and**

further disclosed in paragraph 125-142), and wherein unscrambling includes unscrambling the interference-corrected user data output to provide a rake finger output from the unscrambling step **(output 914 as disclosed in fig. 9 and further disclosed in paragraph 125-142)**.

-Regarding claim 6, Fitton further discloses subtracting includes subtracting an interference evaluation within a rake finger **(shown in fig. 9)**.

-Regarding claim 7, Fitton further discloses wherein respectively determining an evaluation of the interferences includes separately determining an interference evaluation for each of a plurality of paths within the rake finger, further including adding the separately-determined interference evaluations **(the respective outputs from the cross-correlators 622 and 624 are then multiplied by channel estimates 606c and 606b in multipliers 626 and 628 respectively and the results combined to form the final term of Equation 5 on line 630 as disclosed in fig. 6 and paragraph 101)**, and wherein subtracting includes subtracting the added interference evaluations from the received user data **(interference cancellation unit 910 as disclosed in fig. 9 and further disclosed in paragraph 125-142)**.

-Regarding claim 8, Fitton further discloses the means for respectively evaluating the contribution of interferences includes an interference estimator for each path in the rake finger, each interference estimator including a plurality of correlators and a correlator adder to add the output of each correlator, and an interference adder to add the output of the interference estimator for each path

(the respective outputs from the cross-correlators 622 and 624 are then multiplied by channel estimates 606c and 606b in multipliers 626 and 628 respectively and the results combined to form the final term of Equation 5 on line 630 as disclosed in fig. 6 and paragraph 101); and the subtracter means is located in the rake finger, coupled to receive an output from the interference adder, adapted to subtract the output of the interference adder from the user data to provide a subtracted user data output **(as shown in fig. 6)**, and coupled to provide the subtracted user data output to the means for unscrambling data **(as shown in fig. 10)**.

-Regarding claim 9, Fitton further discloses the subtracter means is located in the rake finger **(as shown in fig. 6)**.

-Regarding claim 10, Fitton further discloses the means for respectively evaluating includes a plurality of interference estimators respectively allocated to a path in the rake, and an adder to add an output of the interference estimators **(the respective outputs from the cross-correlators 622 and 624 are then multiplied by channel estimates 606c and 606b in multipliers 626 and 628 respectively and the results combined to form the final term of Equation 5 on line 630 as disclosed in fig. 6 and paragraph 101)**, and the subtracter means is located after the adder and adapted to receive and use an output from the adder to subtract interference from user data processed via the rake finger **(as shown in fig. 6)**.

-Regarding claim 11, Fitton discloses a rake receiver for processing a received data signal **(as disclosed in fig. 5 and further disclosed in paragraph 81)**, the rake receiver comprising a plurality of rake fingers **(fig. 5)**, at least one of the rake fingers including for each of a plurality of paths in the rake finger, an interference estimator to determine the interference in the path **(interference estimator 504 as disclosed in fig. 5 and further disclosed in paragraph 83-87)**, an adder to add the determined path interferences from the interference estimators **(the respective outputs from the cross-correlators 622 and 624 are then multiplied by channel estimates 606c and 606b in multipliers 626 and 628 respectively and the results combined to form the final term of Equation 5 on line 630 as disclosed in fig. 6 and paragraph 101)**, a subtracter to subtract the added interferences from the received data signal to provide a corrected output corresponding to the received data signal with the interferences subtracted therefrom **(interference cancellation unit 910 as disclosed in fig. 9 and further disclosed in paragraph 125-142)**, and an unscrambler to receive and unscramble the corrected output to provide an unscrambled output **(output 914 as disclosed in fig. 9 and further disclosed in paragraph 125-142)**; a despreader to receive and despread the unscrambled output to provide a despread output **(despreaders 424, 426, 428 are provide to despread the appropriate signal from the output of the code generators 418, 420, 422 including scrambling codes as disclosed in fig. 4 and further disclosed in paragraph 11 and 78)**; and a combiner to combine the despread

output with outputs from others of the plurality of rake fingers **(rake combiner 528, fig. 5)**.

-Regarding claim 12, Fitton further discloses each of the interference estimators includes a plurality of correlators, each correlator adapted to generate an interference estimate for all j-1 paths in the received data signal, where j is not equal to the path of the finger in which the correlator is located, and an adder to add the output of the plurality of correlators, and to provide the output as the determined path interference for the interference estimator **(the respective outputs from the cross-correlators 622 and 624 are then multiplied by channel estimates 606c and 606b in multipliers 626 and 628 respectively and the results combined to form the final term of Equation 5 on line 630 as disclosed in fig. 6 and paragraph 101)**.

-Regarding claim 13, Fitton further discloses including a conjugate device to evaluate the conjugate of a scrambling code for the data signal, and wherein the unscramble uses the evaluated conjugate to unscramble the corrected output **(as disclosed in fig. 9 and further disclosed in paragraph 125-143)**.

Allowable Subject Matter

4. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

5. Applicant's arguments filed 6/24/08 have been fully considered but they are not persuasive.

a. In page 6 of the remarks, regarding claims 1-4, applicant argues that applicant fails to see which of the multiple blocks and circuits in fig. 4 are being asserted as "means for unscrambling".

-The examiner wants to respectfully point out the despreaders 424, 426, 428 are provide to despread the appropriate signal from the output of the code generators 418, 420, 422 *including scrambling codes* as disclosed in fig. 4 and further disclosed in paragraph 11 and 78.

b. In page 6 of the remarks, regarding claims 1-4, applicant argues that neither the Office Action nor the reference describe how the cited "subtracter means" (512) in fig. 5 is or could be placed before any "unscrambling means" in fig. 4.

-The examiner respectfully disagrees. The despreaders 424, 426, 428 and code generators 418, 420, 422 are placed in the rake fingers as disclosed in fig. 4 and the interference cancellation units are placed before the rake fingers as disclosed in fig. 5.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PING Y. HSIEH whose telephone number is (571)270-3011. The examiner can normally be reached on Monday-Thursday (alternate Fridays) 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yuwen Pan can be reached on 571-272-7855. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. Y. H./
Examiner, Art Unit 2618

/Yuwen Pan/
Primary Examiner, Art Unit 2618